

Abstract**Birefringence-free passive optical component**

5 The production of optical waveguides on waveguide bases
which, for example, are formed from a correspondingly
structured buffer layer, reduces the birefringence which
occurs owing to thermally induced stresses during the glass
production process. Therefore, the concentration of dopants
10 (for example boron atoms) in the cladding layer can be
reduced to achieve a birefringence-free optical component
as complete adaptation of the thermal coefficient of
expansion of the glass to that of the silicon substrate is
no longer necessary. This has the enormous advantage that
15 optical components, which comprise optical waveguides of
this type, remain stable relative to external influences
for a long time.